

EXCHANGE OF NEWLY-ADDED INFORMATION OVER THE INTERNET
RELATED APPLICATIONS

This application claims priority from U.S. Provisional Patent Application Serial Number 60/557,017 which was filed on March 26, 2004

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention generally relates to the field of accessing and, more particularly to a system and method for collecting and supplying ranked and indexed information as a free or premium (e.g. pay) service to users and advertisers.

2. Description of the Related Art

The internet has grown to such that it now contains several billion addresses. Each one of these addresses may have an associated website and content which changes without prior notice. Alternatively, websites may be dynamically linked to other sites or to devices via web services or xhtml links. Such changes in content and linkage may occur several million times a day. Oftentimes, these "postings" and changes are initiated by third parties. The search engines and other services looking for such changes may not always locate or index the sites. As a result, the web users may not be aware of postings or changes to these sites.

The increasing need for reliable and up to the minute search, price and news information has made it

5 of publications, such as daily news releases and press announcements.

Although some search functions are available for searching publications, these search functions only
10 provide limited access to on-line information, and cost additional usage fees. In addition, it is up to the user to initiate a query with clear knowledge and understanding of what he is searching for, as well as how to access the information and find its relevance. In most cases, such a
15 search will not include the latest 30-90 days worth of publicly available information that resides somewhere on the World Wide Web (www). The concept of broadcasting the news to many subscribers is not new *per se*. However, there is no incentive, process or a single location which
20 is capable of accepting, aggregating and redistributing all published information sources, as well as providing a fast and reliable control and query based real-time dissemination of such information. Accordingly, there is a need to provide a way to collect and supply ranked and
25 indexed information service to users and advertisers.

There is also no system that collects and adds advertising or relevant information to such new information and then disseminates it to interested
30 parties and provides for market based pricing for such advertising services.

As the majority of devices connected to the web migrate from being dominated by PCs to wireless handheld

5 resulting from the information or the results generated by
processing a flow of information.

The present invention permits the creation of a
marketplace for the attachment of value in the form of
10 ads, alerts, competitive information or complimentary
information for the transfer and distribution of
information, and provides real-time market pricing for
different sources of information and the price that
different entities are willing to pay to tag, attach or
15 advertise around such information. In addition,
subscribers and publishers may use the information to sell
content based on a pre-agreed price, while other
subscribers may let the information exchange optimize
their income based on current market prices. In addition
20 such a system allows the aggregation of users into
interest groups, customer profiles and spending levels and
allows the marketplace to price the delivery of ads or
information to such groups. The exchange allows
advertisers to trigger ads based on events taking place
25 and dynamically or manually initiate ads based on such
events.

In accordance with one embodiment, a system for
exchanging newly added information over the Internet
30 provides a system database for storing queries input by
system users which are used to retrieve information from
the Internet pertaining to the stored queries. A search
engine may be enabled to provide additional query results
by being linked to such exchange and based on information

5 unique, time-line topic based tree provides an historical
view of any subjects and all relevant information. As new
alerts and data feeds come pouring into the exchange a new
form of search and alert can be performed which creates an
historical and contextual search map with related product
10 and services links.

Other objects and features of the present invention
will become apparent from the following detailed
description considered in conjunction with the
15 accompanying drawings. It is to be understood, however,
that the drawings are designed solely for purposes of
illustration and not as a definition of the limits of the
invention, for which reference should be made to the
appended claims. It should be further understood that the
20 drawings are not necessarily drawn to scale and that,
unless otherwise indicated, they are merely intended to
conceptually illustrate the structures and procedures
described herein.

25 **BRIEF DESCRIPTION OF THE DRAWINGS**

The foregoing and other advantages and features of
the invention will become more apparent from the detailed
description of the preferred embodiments of the invention
given below with reference to the accompanying drawings in
30 which:

FIG. 1 is an exemplary schematic block diagram
illustrating the interaction between different elements of
an information exchange in accordance with the invention;

5 related parties or other systems that have expressed an interest in being notified of the type of published information as it becomes available. RSS is an XML format for sharing headlines and other web content.

10 The system and method of the present invention permits advertisers and information providers to "piggy back" on a data delivery system to deliver custom ads and other relevant complimentary or competitive information to subscribers. The delivery of the information is based on
15 queries or listing topics, time, relevance and dynamic queries that subscribers have placed within the system or active links generated from within other programs to provide real time interactive work & search environment. In accordance with the invention, providers use the
20 information exchange to trigger web services and custom applications, as well as notifications resulting from the information or the results generated by processing a flow of information. Users specify topics of interest and can be queried for more detail when information is found to
25 further validate the notification. For example a programmer working on a virus fix can instantly be notified of work or solutions provided by others or the latest attempts, he can specify only specific sources or search for relevant topics by simply enabling his browser
30 to be in an active search mode.

Google or Yahoo/Overture permit third parties including publishers and company owners to submit information for inclusion in their search engines, they

5 device, such as a computer, cell phone, personal digital assistant (PDA) or some other web enabled device.

In accordance with the invention, information exchange **100** receives requests via other programs, brokers
10 or aggregators or search engines **115** in "wholesale" data feeds. The requests may be generated by an operating system or a specific application while a user operates a wireless device or a computer each time a search is performed using a browser or the Internet. Users **120** may
15 be asked if they wish to be notified about new results on such a search in the future. If a user accepts the invitation, the query is combined with other information provided by his device or computer, web service, or the search engine used, such as advertisements stored in ad
20 database **125**.

Upon matching such queries the exchange adds advertisements previously placed by advertisers who used the website **110** and system database **130** to place bids and
25 contract with information exchange **100** and its partners to deliver specific ads and information to a target audience. The combined information is translated into a complex query based on the user's profile, other previously entered user information and/or a ranking of search
30 results as well as third party trigger events such as news, key words and change in prices or total users in a specific group. After the delivery of such an alert, the exchange calculates the amount advertisers and third parties need to pay and the amount due to any publishers

5 other tools to enhance the ability to match the flow of
information to the queries in the system, as well as to
"self train" the system to permit users 120 to prioritize
and focus their queries to relevant information aggregated
by information exchange 100. In general, comparison
10 engines or other automated systems may contain millions of
queries that access information exchange 100 at any given
time and during use. Such users or engines may generate a
substantial revenue stream if their users conversion ratio
for goods and services is better than the current web
15 advertising systems by providing enhanced services to
their customers.

The Information exchange 100 provides an alternative
to the traditional methods of submitting information to
20 the public, such as via a press releases or web sites.
Typically, such information is submitted with the hope
that people who receive the information will actually read
it. In the present invention, conventional systems are
replaced by a system that gives publishers and sources of
25 unique information a good reason to publish their data
through the exchange, product announcements, pricing and
promotional announcements, new prices, software or service
releases can be directed to only interested parties. If
content that matches the interests of subscribers is
30 found, a function that is approved by the subscriber is
performed. For example, the function may be providing a
link about a press release to a specific set of
subscribers who have indicated an interest in receiving
such information or loading a demo of the program or

5 systems, such as email, instant messengers, Short Message Service (SMS) messages and Bloomberg terminals.

In addition, information exchange **100** provides client software interface and personal web-logs which permit
10 subscribers to manage their accounts, queries, budgets, profiles, historical events and prioritization that are stored in system database **130**. Moreover, information exchange **100** also synchronizes user storage devices with all relevant information that is found. As a result, the
15 subscribers are continuously provided with the latest data about the topics they care about most, and can access them immediately on their device without the need to access the network or use their computers. Preferably, the subscribers are provided with up to 60 days of the latest
20 information which may include voice video and data on their topics of choice which they may access locally without internet connections since the exchange synchronizes their data when they are available online.

25 The Information exchange **100** has a direct XML or other type of "feed" from every information provider **140** and from every web server **105c** that indicates a new list of updated content or the occurrence of changes to existing content. The list of changes may be organized
30 under standard NAICS/SIC codes or use XML headers for classifications to permit the ease with which content is matched and distributed to interested parties. As a result, owners of content are permitted to publish

5 to any buy and sell offer for keywords or event triggered
ads. Such transparency dramatically reduces the need for
aggregators such as Google, Yahoo and other search engines
who use a system by which advertisers bid blindly for
keywords without knowing what the market price is to reach
10 a user interested in such keyword. Such bids which are
subsequently translated into commercial listings provided
side by side with the free search results generated by the
search engines provide a very high margin for the search
engine. However the providers of the information and the
15 users of the search engines do not have a way to generate
income or obtain a portion of the fees charged by the
search engine. In addition, the ability of the buyers of
the keywords to refine their "hits" is limited, because
Google has limited knowledge about the person performing
20 the search or his real intent to buy or engage in
commerce.

In contrast, the information exchange 100 of the
present invention permits the publishers 105a,
25 aggregators, subscribers and the information providers 140
to receive a portion of the fees charged by the
information exchange, as well as to obtain the true value
of what buyers and sellers are willing to pay or be paid
for certain listings or for performing specific
30 transactions since the exchange charges a transaction fee
and not the margin between what it pays and what it
collects from advertisers. Such full disclosure will
immediately provide lower prices for advertisers and
aggregate many users who will be happy to be paid for

5 the notice may be sent only to a specific set of subscribers which have provided a profile accepted by the manufacturer.

Information exchange **100** also uses a combination of
10 events to generate leads. For example, a person moving from one home to another will indicate to the exchange he is interested in receiving information pertaining to his new location. Here, a list is created of competitive offers from movers, mortgage banks, insurance agents,
15 local merchants and other relevant things the subscriber may need but may not think of. The exchange may also permit advertisers to target people who have completed a series of actions and select only those for a special promotion or for target marketing. The subscribers may
20 request the exchange to always provide competitive information for any offer made by an advertiser as a way to use the exchange to validate the value of a specific offer.

25 With additional reference to FIG. 1, index and counter module **135** is provided so that information exchange **100** may also provide, or allow others to provide data about the information flowing through the exchange, as well as trigger notifications to users **120** when certain
30 events occur. For example, when a business owner wants to know that the number of times a competitor is mentioned in the news exceeds a certain number or exceeds the number of times his own company is mentioned. Proactive searching and message delivery in this manner also permits

5 ranking of the importance of the information, uniqueness of information, etc. , are added to the message logic flow. This is possible because all message information is derived from the XML and other protocol information that are provided with website links.

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Exchange database **220** or a memory resident hash table is used to store queries and counter and statistical analysis data in the index and counter module **135**. The data in the information flow may be compared to other
15 information located in exchange database **220** (e.g., information stored within index and counter module **135**), and forwarded to other parts of the information exchange **100** or discarded.

20 Information exchangers or other aggregators, such as information brokers **240**, are permitted to exchange additional information with the information exchange **100**. A controller **250** is located in the information exchange **100**. The aggregators or other information exchangers **240**
25 are managed by the controller **250** which verifies and handles communication and content delivery to the users **120**. The controller **250** may allow certain information to flow directly from **210** to **285** if it determined that the information is for public interest such as a notice from
30 the federal government or a critical news alert. The controller **250** is also used to validate users **120** and to administer user preferences and rights to access and pay for certain information.

5 destination, such as an internal web-log, external email,
web agents 297, communication devices 290 and/or servers
295. The messaging engine 285 updates the billing and
settlement database, to ascertain who should be charged
for what and who should be credited as a result of the
10 notice just sent since each notice may have a different
combination and content and as such different pricing to
the parties involved. The information exchange thus allows
real time pricing for each transaction in contrast to
today's static advertising environment.

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After a subscriber is provided with a notification
that requested content is available, a billing record is
generated by a combination of the various processing
modules of the exchange and sent to the billing and
20 settlement database 300 so that real time settlement and
billing information can be generated for internal use, as
well as for use by external users of the information
exchange 100. It should be noted that some of the
aforementioned steps may be skipped if, for example, the
25 subscriber is a search engine which is using the
information exchange 100 to collect all published data,
but is not billed for the receiving the information or any
advertisements from the exchange.

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In accordance with the invention, a subscriber may
enter a website 110 via a computing device 290, servers
295 or web agents 297. Preferably, the computing device
is a PDA, computer, mobile phone or some other web enabled
device.

5 complex instructions with the administrator module 275 to
initiate ads or notifications under certain specific
conditions or be added to certain user or interest groups
which may pay a high price for accepting notifications.
Such entries are processed by the information exchange
10 100, exchange database 220 and billing and settlement
database 300. The entries are continuously monitored in
order to optimize matching and spending by advertisers 310
on the information exchange 100. Such system provides for
market based balance of supply and demand between
15 advertisers and users or buyers which is governed by
conversion rates instead of artificial pricing of
keywords, the latter of which has no correlation to
results or to the price of such hits.

20 When multiple subscribing members use the exchange
100, it is possible for them to interact in groups and
view different parts of the bid and ask for spreads for
different topics and details of the notification engine in
the billing and settlement database 300. The multiple
25 parties will see the real time status of their accounts,
financial and historical transactions, and the trends and
activities of the different members. This allows buyers to
be informed about all offers in the market , provide for
price transparency and be paid for evaluating different
30 options from different providers.

Advertisers may embed complex tags, links, triggers
and other forms of code to track the interaction of users
with their offers sent by the exchange so they can match

5 instant messenger or any other program can link via web services or xhtml to information exchange 100 and use it to serve ads or content to the users 120 or subscribers.

10 In another embodiment, information exchange 100 may charge some publishers for their data, while paying other publishers for their data. For example, a company issuing a press release may have to pay for submitting its data to the exchange, while a newspaper writing about such press releases may be paid by the exchange for the submission of
15 its data. In a similar way, a subscriber to the exchange may pay to receive notifications from specific information sources, while being paid each time the notification from others is read. Here, the function of information exchange 100 is to collect, process, notify and settle the
20 financial transactions resulting from each transaction triggered by the exchange based on a pre agreed financial formula entered by its members.

FIG. 3 is a flow chart illustrating the steps of the
25 method of the invention in accordance with the invention. The method is implemented when new data is uploaded to the information exchange, as indicated in step 300. Here, the new data is content that is uploaded to the information exchange 100 by information providers 140 or
30 administrators 145. The new data is made available to publishers 105a, new networks 105b and/or web servers 105c or other information sources (IP).

5 new data that is collected to a list of static queries entered by the users 120 or subscribers to locate content in the new data that matches the queries entered by the users 120, as indicated in step 330. If no match is obtained, a return to step 320 occurs, where the
10 information exchange resumes monitoring the uploaded data to determine whether new data has been added to the information exchange.

If a match is obtained, it is analyzed via a logic
15 flow, text searched and prioritized before a message engine translates it into a web link or combines it with other statistical or relevant data stored in the index and control module 135 (see FIG. 2).

20 At this stage, the information exchange 100 may attach advertising or promotional information provided by third parties based on the subscriber's query or the topic sent to a profile of the subscribers. In addition, the information exchange 100 may charge a fee to the
25 subscribers and third parties for distributing information based on an agreed amount, a transaction fee or a dynamic market in which advertisers bid for the right to be included first in such notifications.

30 The matching content is then sent to the subscriber or agent (e.g. broker, etc.) who ordered the query over the information exchange 100, as indicated in step 340. The information is disseminated to the user or subscriber in a specific format and to a specific device, such as a

5 Statistics related to the delivery and accessing of the
ads are generated, as indicated in step **450**. A calculation
of purchases and payouts by each user is performed, as
indicated in step **460**. Here, the exchange **100** calculates
the amount advertisers and third parties need to pay and the
10 amount due to any publishers or users based on pre agreed
terms published on the exchange, and then credits each user
account.

Each content provider and user is then billed, as
15 indicated in step **470**. The collection of payments is then
performed, as indicated in step **480**. Here, billing and
settlement database **300** is used to performs all billing
functions, such as charging , collecting and crediting the
appropriate parties against their transactions.

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The present invention permits the creation of a
market place for the transfer and distribution of
information, and provides real-time market pricing for
different sources of information and the price that
25 different entities are willing to pay to tag, attach or
advertise around such information. In addition,
subscribers and publishers may use the information to sell
content based on a pre-agreed price, while other
subscribers may let the information exchange **100** optimize
30 their income based on current market prices.

Thus, while there have shown and described and pointed
out fundamental novel features of the invention as applied
to a preferred embodiment thereof, it will be understood